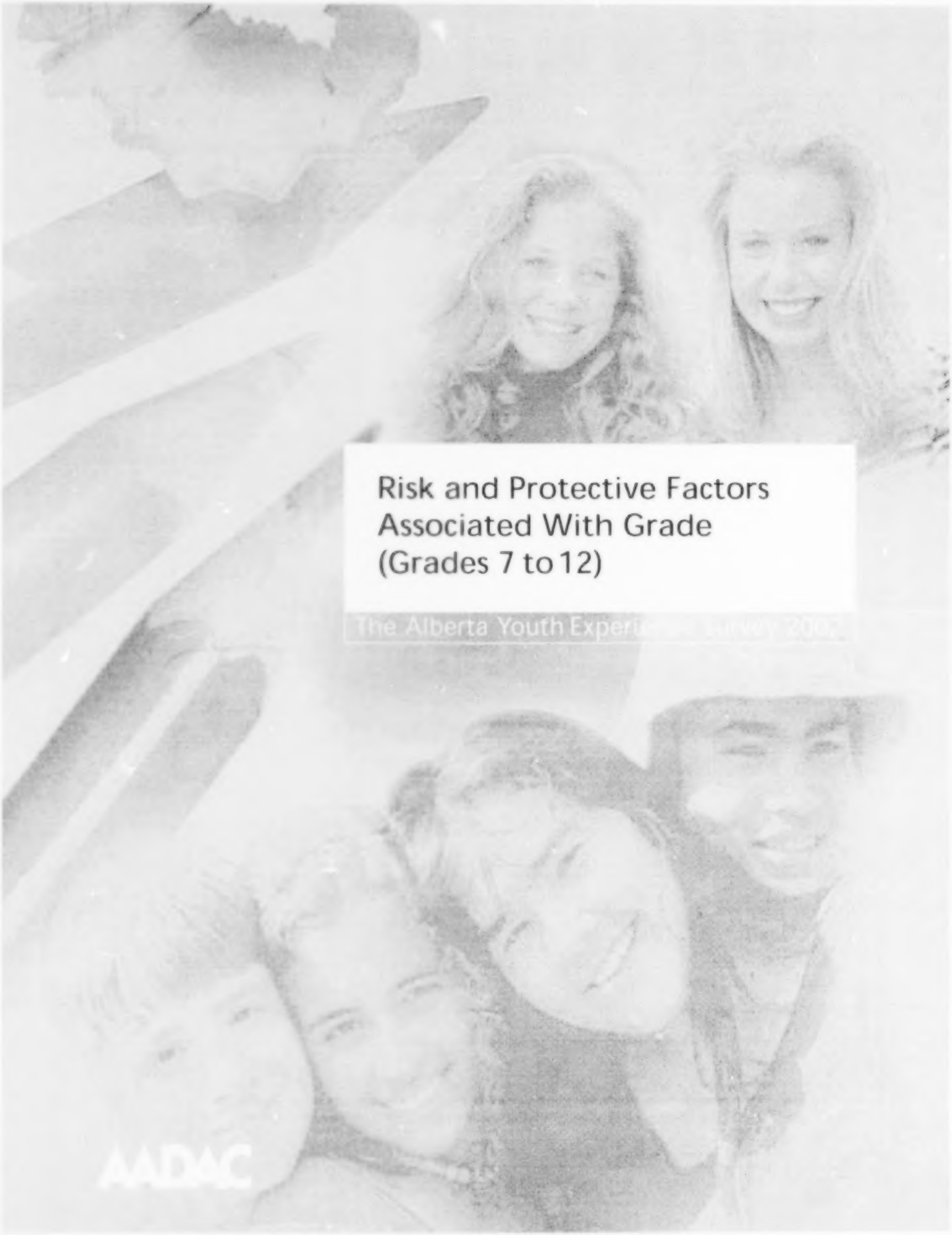

Risk and Protective Factors Associated With Grade (Grades 7 to 12)

The Alberta Youth Experience Survey 2008

AADAC

TABLE OF CONTENTS

EXECUTIVE SUMMARY 3
- Key Findings from the Literature 3
- Key Finding from the Alberta Youth Experience Survey 2002 4

INTRODUCTION 5

LITERATURE REVIEW 6

METHODOLOGY 8
- Sample 8
- Ethics 9
- Data Analysis 10

RESULTS 11
- Junior High Compared to Senior High by Gender, Living Arrangements, and Ethnicity for All Adolescents Surveyed 11
- Information on Risk and Protective Factors for All Adolescents Surveyed 11
  - Summary of findings of average number of risk and protective factors by grade, ethnicity, gender and living arrangements 12

PROFILE OF PROTECTIVE FACTORS BY GRADE LEVEL 14
- Grade 7 14
- Grade 8 14
- Grade 9 15
- Grade 10 15
- Grade 11 15
- Grade 12 15
- Overall Themes Across Grade Levels for Protective Factors 15

PROFILE OF RISK FACTORS BY GRADE LEVEL 17
- Grade 7 17
- Grade 8 17
- Grade 9 18
- Grade 10 18
- Grade 11 18
- Grade 12 18
- Grade at first use for alcohol, cigarettes, or cannabis or grade first gambled or bet among those that used or gambled in the previous 12 months 18
- Overall Themes Across Grade Levels for Risk Factors 19

DISCUSSION AND CONCLUSIONS 21

REFERENCES 23

Prepared by AADAC Research Services
Sheena George, MSc
Art Dyer, MA

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EXECUTIVE SUMMARY

The Alberta Youth Experience Survey 2002 (TAYES) sought to answer questions about the proportion of Alberta youth who used alcohol, tobacco, or other drugs or gambled and the proportion of Alberta youth who used substances or participated in gambling in a harmful way. The survey also sought to investigate the factors that increased adolescents' protection from harmful substances, or increased their risk of substance use or abuse or gambling.

Three reports have been published based on TAYES 2002 — the *Summary Report* (Alberta Alcohol and Drug Abuse Commission [AADAC], 2003a), the *Technical Report* (AADAC, 2003b) and the *Overview of Risk and Protective Factors* (George, Dyer, and Levin, 2003). This report is one of a series of special topical reports, which are intended to provide greater detail on TAYES 2002 results and relevant literature than are contained in the Summary Report. Topical reports are intended for use by professional educators and addictions workers.

This report has two purposes. First, how and why certain risk and protective factors were chosen for this survey will be discussed in the methods section. Second, a description of the average number of risk and protective factors by demographic variables (grade, ethnicity, gender and living arrangements) will be presented. Special focus on risk and protective factors by grade level will be included. How these findings relate to the adolescent addictions literature and school based programming will be highlighted in the conclusion and discussion.

Key Findings from the Literature

In the 1990s, researchers began to use the risk and protective factors framework closely associated with the works of Hawkins, Catalano, and Miller (1992) and Newcomb and Felix-Ortiz (1992). The premise of the framework is that both risk and protective factors occur within life domains (individual, family, school, peer, and community) and that certain factors are related to substance use, substance misuse, or gambling behaviour.

The research on protective factors is more recent, but not as conclusive, as the research on risk factors. Factors close to the individual (referred to as proximal factors) tend to be more influential than distant (or distal factors). Peer factors are considered proximal, and community factors are considered distal (Center for Substance Abuse & Prevention [CSAP], 2001).

The risk and protective factors framework is based on a cumulative concept. As the number of protective factors increases in a young person's life, the ability to remain resilient is more likely to increase. When the number of risk factors increases, the likelihood of vulnerability increases. Risk and protective factors are in all life domains (individual, family, peer, school, and community), and the factors often interact with each other.

Younger children tend to have more protective orientations or attitudes, a stronger commitment to school, stronger perceptions of self-efficacy, and self-control (Substance Abuse and Mental Health Services Administration [SAMHSA], 2002). Though there is not a definitive age at which prevention activities should occur, recently there has been a move toward "precision targeting" in prevention. Precision targeting has been defined as "reaching the right audience, at the optimal timing, with the right set of messages" (Bailey 1998a; Bailey 1998 b). Research indicates the three critical years are grades 7, 8, and 9. In particular, critical times are at the end of Grade 6 and the end of Grade 9, or when adolescents are between ages 12 and 15. The three critical hours are between 3:00 pm and 6:00 pm on school days.

Males tend to be significantly more likely than females to use illicit drugs on a frequent basis (DeWit and Silverman, 1995) and are at a higher risk for substance abuse in later adolescence (Johnson, O'Malley and Bachman, 1992). Age is an important factor: as adolescents get older, they are more likely to have experimented with alcohol, tobacco, other drugs, or gambling. As experimentation increases, so does the chance of misuse or abuse.

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Key Finding from the Alberta Youth Experience Survey 2002

When the average number of risk and protective factors are reviewed by demographic variables (grade, ethnicity, gender, and living arrangements), there are few surprises. Consistent with the literature, younger adolescents tend to have more protective orientations than older adolescents. Adolescent males report, on average, more risk factors than females, and Aboriginal ethnicity appears to be an important factor. Adolescents residing with both natural parents are less likely to be at risk for alcohol, tobacco, or other drug problems than youth in other living arrangements (Nurco and Lerner, 1996).

An encouraging and promising finding is that most Alberta adolescents report high levels for the eight protective factors and low levels for the 19 risk factors included in *The Alberta Youth Experience Survey 2002*. The presence of several risk factors generally increases as adolescents age. Risk factors include parental approval of licit or illicit substances, family history of substance abuse, family smoking behaviour, low father support, low mother support, peer risk behaviour, early school leaving, and low marks in school. Perceptions of school disconnection and neighbourhood disorganization remain consistently low throughout junior and senior high.

For youth that reported use of alcohol, cigarettes, or gambling/betting behaviour, the majority report starting the behaviour at an early age (grades 4 to 7). For those who report cannabis use, the majority report a later age of onset (grades 8 to12). These findings support well-known principles in best and promising practices for school-based programming (Levin and George, 2003).

INTRODUCTION

The Alberta Youth Experience Survey 2002 (TAYES) sought to answer questions about the proportion of Alberta youth who used alcohol, tobacco, or other drugs or gambled and the proportion of Alberta youth who used substances or participated in gambling in a harmful way. The survey also sought to investigate the factors that increased adolescents' protection from harmful substances, or increased their risk of substance use or abuse or gambling.

Three reports have been published based on TAYES 2002 — the *Summary Report* (Alberta Alcohol and Drug Abuse Commission [AADAC], 2003a), the *Technical Report* (AADAC, 2003b) and the *Overview of Risk and Protective Factors* (George, Dyer, and Levin, 2003). This report is one of a series of special topical reports, which are intended to provide greater detail on TAYES 2002 results and relevant literature than are contained in the Summary Report. Topical reports are intended for use by professional educators and addictions workers.

While prevalence information provides organizations and the public with a clear description of the scope and limits of problems, information on risk and protective factors can help identify key stakeholders who are affected by or can help solve addictions problems. Information on the degree of problems and the extent to which risk and protective factors are present is useful in determining priorities for broad prevention, targeted interventions, and treatment.

One purpose of TAYES 2002 was to determine the current extent of use of alcohol, tobacco, other drugs, and gambling behaviour (ATODG) among young Albertans. A critical second purpose of *The Alberta Youth Experience Survey 2002* was to focus attention on what, if anything, could be done to prevent certain problems or trends from developing or to intervene when they appeared.

This report has two purposes. First, how and why certain risk and protective factors were chosen for this survey will be discussed in the methods section. Second, a description of the average number of risk and protective factors by demographic variables (grade, ethnicity, gender and living arrangements) will be presented. Special focus on risk and protective factors by grade level will be included. How these findings relate to the adolescent addictions literature and school based programming will be highlighted in the discussion and conclusion.

The following questions are addressed:

- What is the demographic breakdown of adolescents surveyed (ethnicity, living arrangement, and gender) by junior high (grades 7 to 9) and senior high (grades 10 to 12)?
- What is the average number of risk and protective factors among all youths surveyed, based on demographic information (grade, ethnicity, gender, and living arrangements)?
- What is known about risk and protective factors within each grade level (grades 7 to 12)?

This report sets the stage for the upcoming reports using the risk and protective factors framework. Each of the forthcoming reports will focus on the specific family, peer, or school factors associated with ATODG, not necessarily focusing on grade level.

LITERATURE REVIEW

Thousands of studies of adolescent alcohol, tobacco, and other drug use have been done around the world, and there are an increasing number of studies of adolescent gambling. For alcohol, tobacco, and other drugs, a number of key patterns of use and abuse have emerged and several risk and protective factors have been associated with use, misuse, and abuse of these substances. Adolescent gambling behaviour is less thoroughly researched, but seems to be similar with respect to major patterns.

The risk and protective factors framework emerged in the 1990s as a new and effective way for researchers and practitioners to organize research on a multitude of factors related to ATODG. The framework is closely associated with the work of Hawkins et al. (1992) and Newcomb and Felix-Ortiz (1992). These researchers have organized over thirty years of detailed research findings in substance abuse and use the framework as an important way to make sense of the large number of complex interactions that affect the development of problems. Research examining risk and protective factors is critical for the development of treatment and prevention programs. TAYES was designed using this framework as a guiding and organizing principle.

Certain factors can be associated with use and abuse of alcohol, tobacco, other drugs, and gambling. The literature points to more than 250 risk factors and 150 protective factors. These factors usually appear within a particular domain or sphere of influence: individual, peer, family, school, or community. Factors that are closest to the individual are referred to as proximal factors. Typically these are family or peer factors. Other factors are considered distant or (distal) and include community or societal-level factors. The report, *An Overview of Risk and Protective Factors* (George et al., 2003), and the paper, *Youth Trends and Risk and Protective Factors* (George, Munro, and Huebert, 2002), provide a summary of the major findings of related studies throughout Canada and the United States.

There is more literature on risk factors than protective factors and this is reflected in the number of risk versus protective factors chosen in TAYES 2002. The vast majority of literature also examines patterns of use, not abuse, when compared to risk and protective factors.

Risk factors are defined as either life events or experiences that are statistically associated with an increase in problematic behaviour such as alcohol and other drug use or abuse and problem gambling (Hawkins et al., 1992). Longitudinal studies have identified risk factors for substance abuse within individuals, in the environments within which they develop (including families, schools, peers groups and the broader community), and in the interactions of individuals and their environments.

Protective factors are defined as life events or experiences that mediate or moderate the effect of exposure to risk factors. The result is the reduced incidence of the problem behaviour (Garmezy, 1985; Rutter, 1979, as cited in Pollard and Hawkins, 1999).

Those factors closest to the individual exert more influence than more distant ones; for example, peer influences can be stronger than parental influences. However, close factors are influenced by more distant factors; for example, parents can have a strong influence over the choice of peers (Center for Substance Abuse & Prevention [CSAP], 2001). Factors from one domain often interact with factors from other domains. Risk and protective factors are found in all domains.

Research indicates that younger children tend to have more protective orientations or attitudes, stronger commitment to school, stronger perceptions of self-efficacy, and self-control. However, between the ages of 11 and 16, these orientations shift toward greater risk, indicating a reduction in the internal protective orientations during junior and senior high (Substance Abuse and Mental Health Services Administration [SAMHSA], 2002).

Most of the research on early age of onset does not specify at what age prevention planners should attempt to delay onset. Recently, though, there has been a move toward "precision targeting" in prevention. Precision targeting has been defined as "reaching the right audience, at the optimal time, with the right set of messages" (Bailey, 1998a; Bailey, 1998b).

The basic premise of this approach is based on evidence indicating that there are three critical hours and three critical years in which half of all new drug use begins. The research that supports this focus is based on alcohol, tobacco, and other drug use, not on gambling.

The three critical years are grades 7, 8, and 9. In particular, critical times are at the end of Grade 6 and the end of Grade 9, or when adolescents are between ages 12 and 15. The three critical hours are between 3:00 pm and 6:00 pm on school days.

While there is evidence in the literature that early age of onset is associated with later problems, the exact nature of this relationship has not been determined. For instance, it is still unclear whether age of alcohol onset or the duration of alcohol use contributes more to later adolescent alcohol use patterns (Gruber, Diclemente, Anderson, and Lodico, 1996).

Another high-risk time is in late adolescence, particularly the transition year from senior high to college or work. Data suggest that this risk period is characterized by a sharp increase in tobacco and drug use for those adolescents who had not previously experimented with them, and in some cases, they progress to abuse or binge drinking (Johnston, O'Malley, and Bachman, 1992). Individual and family factors are the earliest consistent predictors of adolescent substance misuse. School factors become significant predictors of later drug use. When peers use drugs, both the prevalence and predictive power of drug use in adolescence increases.

In understanding the effect of risk factors, it is important to note certain commonalities. Males tend to be significantly more likely than females to use illicit drugs on a frequent basis (DeWit and Silverman, 1995) and are at a higher risk for substance abuse in later adolescence (Johnson, O'Malley and Bachman, 1992). Age is an important factor: as adolescents get older, they are more likely to have experimented with alcohol, tobacco, other drugs, or gambling. As experimentation increases, so does the chance of misuse or abuse. Also, the greater the number of risk factors, the greater the likelihood of developing substance abuse or gambling problems, and the greater the number of protective factors, the lower the likelihood of developing substance abuse or gambling problems.

METHODOLOGY

This report is based on secondary analysis of data collected for TAYES, 2002. Methods for the survey are reported in detail in the *Technical Report* (AADAC, 2003).

The Alberta Youth Experience Survey questionnaire comprised 84 questions. One questionnaire was used for all six grades (7 through 12). The questionnaire was based on comparable studies conducted in other provinces and states. The study's dependent measures are alcohol, tobacco, other drugs, and gambling use and abuse. The independent and covarying measures in this study are risk and protective factors. Most of the independent and covarying measures included in the study are described in a risk and protective factors framework associated with the work of Hawkins et al. (1992) and Newcomb and Felix-Ortiz (1992). Nineteen risk and eight protective factors, associated with both use and abuse, were selected from across the five domains or life dimensions in TAYES.

Causality has not yet been established for many risk and protective factors. Some may be markers and some may be true causes. All factors included in this study have been identified as important correlates because the research literature demonstrates relationships between these factors and substance abuse.

Two sets of criteria were established to guide selection of risk and protective factors. First, selected indicators with a strong track record in forecasting future substance use and abuse were identified from the Ontario Student Drug Use Survey (OSDUS) (Adlaf and Paglia, 2001) and the Monitoring the Future (MTF) survey (Johnston, O'Malley, and Bachman, 2001) and mapped to the risk and protective factors domains (individual, family, school, peer, and community). Second, a recent AADAC review of risk and protective factors identified the key factors within each domain (George et al., 2002).

A balance was sought between covering the most important factors identified and the briefest set of survey items available to measure those factors from existing questionnaires. Items were selected from the Ontario Student Drug Use Survey [OSDUS] (Adlaf and Paglia, 2001), MTF (Johnston et al., 2001), Texas Commission Alcohol and Drug Abuse (TCADA) (Texas Commission on Alcohol and Drug Abuse, 2000, National Longitudinal Survey on Children and Youth (NLSCY) (Human Resources and Development Canada, 2000) and Communities that Care surveys (Channing Bete Company, 2001). Where several measures were available, preference was given to those judged most easily read by youths, those used in Canadian studies, and those with better predictive power. The final set of questionnaire items was modified for readability prior to pre-testing.

Several pre-existing scales and newly created scales were used to measure the dependent and independent variables. For scales, cut off points have been used rather than reporting the full range of scores. The cutoff points were determined based on quartile splits, midpoints, or cutoffs reported in the research literature.

Table 1 contains a list of the nineteen risk factors and Table 2 contains a list of the eight protective factors by domain.

Review the TAYES 2002: Technical Report for details when new scales were created and when individual questions were used (AADAC, 2003, pg 16 and Appendix A).

Sample

The study was based on a school survey of 3,394 Alberta youth in grades 7 to 12 in October and November 2002. The sample was designed as a stratified random cluster sample with selection proportionate to classroom size. The sample was stratified by five regions aggregated from regional health authority boundaries as they existed in April 2002 and by school grade. The survey was administered in randomly selected classrooms in 89 schools in 39 school divisions throughout the province.

Table 1: Risk factors included in TAYES 2002

Domain	Risk Factors
Individual	Age
	Grade at first start: • alcohol • tobacco • cannabis • gambling
	Ease of access to: • alcohol • cigarettes • cannabis
Peer	Peer risk behaviour
Family	Support/bonding with: • mother • father
	Family history of substance abuse
	Family smoking behaviour
	Parent approval
	Family discord
School	School disconnection
	Poor grades
	Early signs of leaving school
Community	Neighbourhood disorganization

Table 2: Protective factors included in TAYES 2002

Domain	Protective factors
Individual	• Social skills
	• Participation in pro-social activities
Peer	• Peer influence on decision making
Family	• Parental monitoring
School	• School connection
	• School grades (GPA)
Community	• Positive adults in neighbourhood
	• Availability of pro-social activities

Ethics

Ethics approval was obtained from a duly constituted ethics review board consistent with the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* (Alberta Heritage Foundation for Medical Research, 2001). The survey was conducted in compliance with the Health Information Act (2001) and the *Freedom of Information and Protection of Privacy Act* (1995). Active, informed parental consent was required. Youth and parent names were kept confidential to the schools that participated in the survey and research staff had no access to these names.

The questionnaire and survey processes were pre-tested in one school with students in grades 7 to 12 (the French language version of the questionnaire was pre-tested with a French immersion class). Research staff administered an 84-question survey. *The Alberta Youth Experience Survey, 2002: Technical Report* (AADAC, 2003b) outlines meas-

ures taken to reduce mis-representation by students answering the questionnaire. The response rate of 52% is consistent with similar surveys using active informed consent.

Data Analysis

All results reported are based on weighted data, which ensured proper representation from all areas of Alberta. The sample of 3,394 students represents over 263,000 Alberta students in grades 7 to 12. Refer to *TAYES 2002: Technical Report* (AADAC, 2003) for more details on the weighting strategy.

Analyses were completed on all students surveyed except when analyzing age of onset for substance first used or age first gambled. Ease of access was not included in the profile on grades but was included in the analysis on total number of risk factors. Please refer to *TAYES 2002: Technical Report* (AADAC, 2003) for information on ease of access by grade level.

Two levels of statistical analyses are presented. First, post-hoc one-way analysis of variance was used to examine the average number of risk and protective factors by demographic variables (gender, ethnicity, grade, and living arrangement). Second, chi-square tests were conducted to determine the relationship and level of significance between risk and protective factors with each grade level (7 to 12). Each of the analyses was statistically significant at the alpha level of 0.0005 unless otherwise noted. Missing values were not included in the analyses. "Don't know" responses were included for three of the risk factors (ease of access, family history of substance abuse, and family smoking behaviour).

RESULTS

Junior High Compared to Senior High by Gender, Living Arrangements, and Ethnicity for All Adolescents Surveyed

Approximately the same percentage of females and males are in both junior and senior high. When living arrangements are examined, more youth in junior high live with both natural parents (74%) than in senior high (70%). More senior high students live with only their natural fathers (5%) than junior high youth (1%). More senior high youth live with one natural parent and one step-parent (11%) than those in junior high (9%). In both junior and senior high, the same percentage of youth live with neither natural parent (3%). Three per cent of youth are of Aboriginal ancestry. (See Table 3 in the Appendix for detailed results.)

Information on Risk and Protective Factors for All Adolescents Surveyed

TAYES 2002 found that most Alberta youth report the presence of some risk factors. The largest four groupings of youth report between three and six risk factors not confined to one risk area but across multiple domains. None reported more than seventeen of the nineteen risk factors. Eight per cent reported one to ten risk factors with 7% reporting 10 or more risk factors. Refer to *TAYES 2002: Summary Report* (AADAC, 2003).

The average number of risk factors increases as adolescent get older. (Figure 1) with a slight decrease in grade 12. Adolescents in Grade 7 report an average of 2.8 risk factors and Grade 12 youths report an average of 6.7 risk factors. The change in average number of protective factors across grade levels is not as dramatic, and ranges from 4.2 to 5.3 protective factors.

Adolescents of Aboriginal ancestry on average report 7.1 risk factors compared to Non-Aboriginal youth that report 5.5 risk factors. There is a statistically significant difference in the average number of risk factors reported but both ethnic groups report a similar number of protective factors. The relationship between protective factors and ethnicity is not statistically significant (see Figure 2).

On average males report a higher number of risk factors (5.9) compared to females (5.3). Females on average, however, report a higher number of protective factors (5.1) compared to males (4.3) (see Figure 3).

When it comes to living arrangements, adolescents living in families with both natural parents report the lowest average number of risk factors. Adolescents that live with their natural fathers only report the highest average number of risk factors. Those that live with both natural parents also report the highest average number of protective factors. In general, however, the average number of protective factors is similar across living arrangements, with the range from 3.6 to 4.9 protective factors (see Figure 4).

Figure 1: Average number of factors by grade

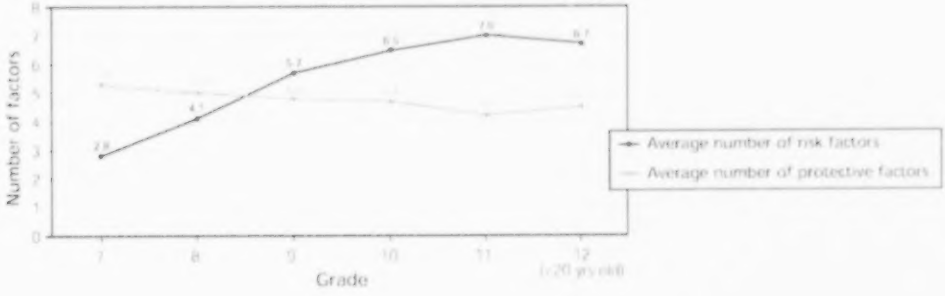


Figure 2: Average number of factors by ethnicity

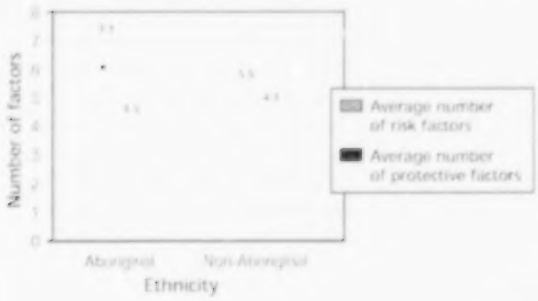


Figure 3: Average number of factors by gender

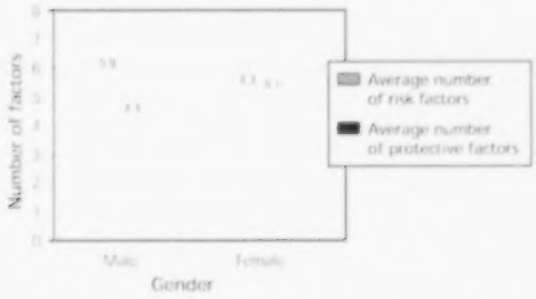
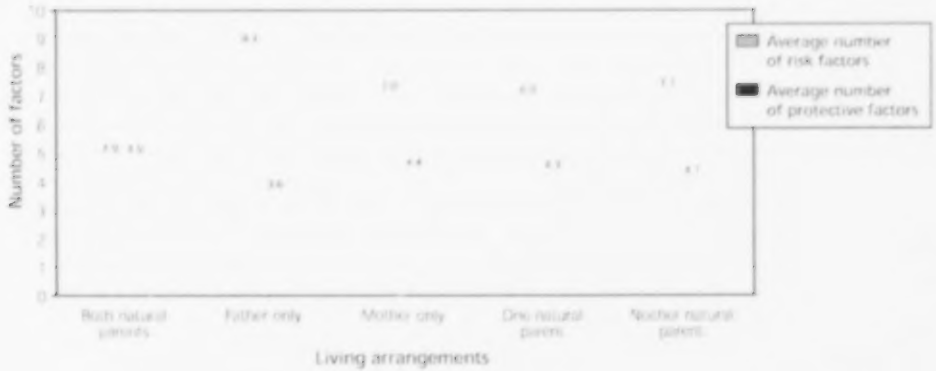


Figure 4: Average number of factors by living arrangement



Summary of findings of average number of risk and protective factors by grade, ethnicity, gender and living arrangements

When the average number of risk and protective factors are reviewed by demographic variables (grade, ethnicity, gender and living arrangements) there are few surprises. Consistent with the literature, younger adolescents tend to have more protective orientations than older adolescents. Adolescent males report on average more risk factors than females and Aboriginal ethnicity appears to be an important factor. When living arrangements are considered, the average number of risk and protective factors reported is also consistent with the literature, with adolescents residing in non-intact homes more likely to be at risk for alcohol, tobacco or other drug problems than youth in intact homes (Nurco and Lerner, 1996).

PROFILE OF PROTECTIVE FACTORS BY GRADE LEVEL

The following section profiles the percentage of protective factors present in each grade level. The range of protective factors within each grade level represents the percentage of youth that have high levels of protection. Scales were created to measure 7 out of 8 protective factors. Refer to TAYES, 2002 Technical Report for details (AADAC, 2003). School marks is based on a single question, where 80% or higher defined high school marks.

Scales were used to measure social skills, pro-social activities, peer influence on decision-making, parental monitoring, school connectedness, positive adults in the neighbourhood and availability of pro-social activities.

- High social skills is based on four scenario questions that examine the ability of youth to handle difficult situations, such as being able to say no to friends.
- High pro-social activities include frequent participation in pro-social activities such as after hours school sports, community sports (evening and weekends), church groups and/or clubs (scouts, 4-H, service clubs).
- High peer influence on decision-making indicates that youth were more likely to be positively influenced by their peers when it came to doing interesting things they would not have done by themselves, taking their close friends opinion into account when making a decision and when they report that close friends rarely push them to do foolish or stupid things.
- High parental monitoring means that parents were more likely to know where their adolescent is after school, who they go out with at night, and where they are at night and that parents set curfews on weekend nights.
- High school connectedness reflects youth more likely to report that they enjoy being in school, try to do their best work in school and find their school work interesting.
- High positive adults in the neighbourhood indicates that adolescents were more likely to report that their neighbours notice them and let them know when they do a good job, encourage them to do their best, are proud of them when they do something well, and are there for them to talk to about important things.
- High availability of pro-social activities in the community reflects youth who are more likely to perceive certain activities (school sports teams, community sports teams, scouting, Boys and Girls clubs, 4-H club and Service clubs) as available.

Grade 7

The vast majority of adolescents in Grade 7 reported high levels of protection for six of the eight protective factors surveyed. The six protective factors are, high parental monitoring, high peer influence, high connection to school, high marks in school, high availability of pro-social activities and high social skills. For these factors the percentage for high protection ranges from 66% to 96%. Youth reported lower levels when asked about their perception of the presence of positive adults in their neighbourhood. Forty-three per cent perceived a high level of positive adults whereas fifty-seven per cent perceived a low level of positive adults. When asked about their participation in pro-social activities, a minority of youths (24%) reported high participation. More youths (69%) reported low participation. Protective factors in the individual and community domains were low.

Grade 8

The vast majority of youth in Grade 8 reported high levels of protection for five out of the eight protective factors. The five protective factors are high parental monitoring, high peer influence, high connection to school, high availability of pro-social activities and high social skills. For these factors, the percentage for high protection ranges from 79% to 97%. As seen in Grade 7, perceptions of high levels of positive adults in the

neighbourhood were low (43%). The minority of youths reported high levels of participation (29%). About half of the youth surveyed self-reported high marks in school (53%). Protective factors in the individual, community and school domains were low.

Grade 9

The vast majority of adolescents in Grade 9 reported high levels of protection for five out of eight protective factors. The five protective factors are, high parental monitoring, high peer influence, high connection to school, high availability of pro-social activities and high social skills. For these factors, the percentage for high protection ranges from 62% to 94%. About half of the youth surveyed self-reported high marks in school (53%). The perception of high levels of positive adults in the neighbourhood decreases in Grade 9 to 29%. High participation in pro-social activities is reported by 29% of youth. Protective factors in the individual, community and school domains were low.

Grade 10

The vast majority of youth in Grade 10 reported high levels of protection for five out of eight protective factors. The five protective factors are, high parental monitoring, high peer influence, high connection to school, high availability of pro-social activities and high social skills. For these factors, the percentage for high protection ranges from 77% to 93%. Twenty-five per cent of youths perceived a high presence of positive adults in their neighbourhoods, 47% of youths reported high marks in school, and only 21% of youths reported high participation in pro-social activities. Protective factors in the individual, community, and school domains were low.

Grade 11

The vast majority of Grade 11 youth reported high levels of protection for four out of eight protective factors. The four factors are, high parental monitoring, high peer influence, high connection to school and high social skills. For these factors, the percentage for high protection ranges from 62% to 89%. Twenty-eight per cent reported high marks in school, 22% reported high levels of positive adults, 18% reported high participation in pro-social activities, and 57% reported high availability of pro-social activities. One factor in the individual and school domain and all protective factors in the community domain were low.

Grade 12

The vast majority of Grade 12 youth reported high levels of protection for five out of eight protective factors. The five factors are, high parental monitoring, high peer influence, high connection to school, high availability of pro-social activities and high social skills. For these factors, the percentage for high protection ranges from 72% to 90%. Twenty-nine per cent reported high marks in school, 48% reported high levels of positive adults, and 17% reported high levels of participation. Protective factors in the individual, community and school domains were low.

Overall Themes Across Grade Levels for Protective Factors

The majority of youth reported high levels of protective factors studied throughout junior and senior high school. In the individual domain, the percentage of youth that reported high social skills are highest in Grade 7 (96%) then decreases till Grade 11 (72%). There is a slight increase in Grade 12 (80%). The highest self-reported levels of participation in pro-social activities occur in Grade 7 (31%), this level of participation is relatively consistent throughout junior high school (the range was 29% to 31%) but decreases in high school (the range was 17% to 21%).

In each of the family and peer domains there is one protective factor. A high level of parental monitoring is present (the range was from 84% to 97%) throughout the school years, as is high peer influence (the range was from 87% to 92%).

There are two school domain factors. As youths get older their self-reported GPA decreases, with 66 % of adolescents in Grade 9 reporting high

grades in school compared to 29% of youth in Grade 12. Generally the percentage of youth that report high connection to school remains high (above 60%) throughout the school years with the highest reported percentage in Grade 7 (86%) and the lowest reported percentage in Grade 11 (62%).

Two community protective factors were included in the survey (high positive adults and high availability of pro-social activities). The percentage of youth that perceive a high presence of positive adults in their neighbourhood decreases as they age with 43% in Grade 8 reporting high levels compared to 18% in Grade 12. This decrease is first seen in Grade 9 (29%). The percentage of youth that reported high availability of pro-social activities remains generally the same (the range is from 57% to 69%). The lowest percentage (57%) reflects youth in Grade 11.

PROFILE OF RISK FACTORS BY GRADE LEVEL

The following section profiles the percentage of risk factors present in each grade level. The range of risk factors within each grade level represents the percentage of youth that have low levels of risk. Scales and individual questions were used to measure the 19 risk factors. Refer to the TAYES, 2002: Technical Report for details (AADAC, 2003).

Individual questions were used to measure age, family smoking, family history of substance abuse, family discord, school marks, grade first gambled, smoked cigarettes, or used alcohol or cannabis, and ease of access for cigarettes, alcohol or cannabis.

- Age range was from 11 years of age or younger to 20 years of age or older.
- High family smoking indicates that youth reported an immediate family member smokes cigarettes, cigars, or pipes.
- High family history of substance abuse indicates that youth reported an immediate family member has had a severe alcohol or drug problem.
- High family discord illustrates youth's perception of how poorly or not very well his/her parents get along.
- Poor school marks reflect marks 59% or less.
- Grade at first start for gambling, smoking cigarettes, drinking alcohol and cannabis use was categorized as Grade 4 to 7 and Grade 8 to 12.
- Ease of access questions for cigarettes, alcohol, or cannabis were based on whether youth reported the substance was easy to obtain. Don't know responses were not included in this analysis.

Scales were used to measure mother or father support, parental approval, peer risk behaviour, school disconnection, early signs of leaving school and neighbourhood disorganization.

- Low mother or father support indicates that youth perceive the nature and closeness of their relationship to either parent as poor.
- High parental approval reflects youth that are more likely to report their parents strongly approve of them smoking tobacco, drinking alcohol and using drugs.
- High peer risk behaviour reflects youth that are more likely to report their friends engage in risk behaviour such as smoking cigarettes, drinking alcohol etc.
- High disconnection to school represents youth that are more likely to report dissatisfaction with being in school, find their school work too hard to understand, fail to complete or turn in assignments, or get sent to the office.
- High early signs of leaving school reflects youth, for example, that are more likely to report that they missed a whole day of school because they "cut" class.
- High neighbourhood disorganization reflects, for example, youth more likely to see groups of young people who cause trouble or excessive drinking in public as a problem in their neighbourhood.

Grade 7

The majority of adolescents surveyed in Grade 7 report low peer risk, high mother support, high father support, parents strongly disapprove of substance use, no family history of alcohol and drug abuse, low family discord, low school disconnection, high marks in school and low neighbourhood disorganization. For these factors, the percentage for low risk ranges from 64% to 98%. Forty-three per cent reported family smoking behaviour. Thirty per cent of youth reported high indicators of leaving school early. Risk factors in the family domain and one risk factor in the school domain are high.

Grade 8

The majority of adolescents surveyed in Grade 8 report low peer risk, high mother support, high father support, parents strongly disapprove of substance use, no family history of alcohol

and drug abuse, low family discord, low school disconnection, high marks in school and low neighbourhood disorganization. For these factors, the percentage for low risk ranges from 53% to 96%. Fifty-one per cent reported family smoking behaviour. Similar to Grade 7, 32% of youth reported high indicators of leaving school early. Risk factors in the family domain and one factor in the school domain are high.

Grade 9

The majority of adolescents surveyed in Grade 9 report low peer risk, high mother support, high father support, no family history of alcohol and drug abuse, low family discord, low school disconnection, high marks in school and low neighbourhood disorganization. For these factors, the percentage for low risk ranges from 53% to 95%. Strong parental approval of substance use was reported by 30% of youth. Fifty-one per cent indicated family smoking behaviour. High indicators of leaving school early were reported by 37% of youth. Many risk factors in the family domain and one factor in the school domain are high.

Grade 10

Most of the adolescents surveyed in Grade 10 report low peer risk, high mother support, high father support, no family history of alcohol and drug abuse, low family discord, low school disconnection, high marks in school and low neighbourhood disorganization. For these factors, the percentage for low risk ranges from 47% to 95%. Strong parental approval of substance use was reported by 27% of youth. Fifty-four per cent indicated family smoking behaviour. High indicators of leaving school early were reported by 43% of youth. Many risk factors in the family domain and one factor in the school domain are high.

Grade 11

The majority of adolescents surveyed in Grade 11 report high mother support, high father support, low family discord, low school disconnection, and low neighbourhood disorganization. For these factors, the percentage ranges from 75% to 94%. Strong parental approval of substance use was reported by 40% of youth. Fifty-four per cent of youth indicated family smoking behaviour. Thirty-eight per cent indicate family history of substance abuse. High peer risk was reported by 36% of youth. High indicators of early school leaving were reported by 39% of youth. Fourteen per cent of youth reported low marks in school. Half of the risk factors in the family domain and one factor in the school domain are high.

Grade 12

Many of the adolescents surveyed in Grade 12 report high mother support, low family discord, low school disconnection and low neighbourhood disorganization. For these factors, the percentage for low risk ranges from 76% to 98%. Strong parental approval of substance use was reported by 47% of youth. Fifty-seven per cent indicated family smoking behaviour. Thirty-four per cent report family history of substance abuse and 34% reported low father support. High peer risk was reflected by 37% of youth. High indicators of early school leaving were reported by 51%. Ten per cent reported low marks in school. The majority of risk factors in the family domain and one in the school domain are high.

The next section profiles the grade in which students first drank alcohol, first smoked cigarettes, first tried cannabis, or first gambled among students who had used in the previous 12 months. This section also presents the grade in which students first gambled (for students who report betting or gambling in the previous 12 months).

Grade at first use for alcohol, cigarettes, or cannabis or grade first gambled or bet among those that used or gambled in the previous 12 months

Among those who drank in the past year, most adolescents (56%) had their first drink of alcohol in grades 4 to 7. Among those that smoked in the past year, the majority (62%) smoked their first cigarette in grades 4 to 7. Among those who used

Table 4: Grade at first use for alcohol, cigarettes, cannabis or grade first gambled/bet among those that used or gambled/bet in the previous 12 months

	Started in grades 4 to 7	Started in grades 8 to 12
Grade first drank alcohol	56%	45%
Grade first smoked cigarettes	62%	39%
Grade first tried cannabis	31%	69%
Grade first gambled/bet	73%	27%

cannabis in the last year, the majority (69%) first tried cannabis in grades 8 to 12. Among those that gambled in the last year, the majority (73%) first gambled or bet in grades 4 to 7 (refer to Table 4).

Overall Themes Across Grade Levels for Risk Factors

Several of the risk factors increase as adolescents age. Within the family domain, only one risk factor, family discord, did not consistently increase with age. High family discord remains generally the same throughout junior high school with the highest percentage reported in Grade 7 (17%). The range is from 9% to 21%. There is more variation in senior high, with a decrease from 16% in Grade 10 to 9% in Grade 11, with a jump to 21% in Grade 12.

The following family risk factors generally increase as youth age. The percentage of youth that report parents strongly approve of them smoking tobacco, drinking and using drugs increases from Grade 7 (13%) to Grade 9 (30%). Another increase occurs in Grade 11 (40%) to Grade 12 (47%). The percentage of youth that report that someone in their immediate family smokes cigarettes, cigars, or pipes was lowest in Grade 7 (43%) and continues to increase to 56% in Grade 12. Self-reported history of alcohol and drug abuse in their immediate family is 12% in Grade 7 and increases to 25% in Grade 10. The highest percentage is for Grade 11 students (38%). Low father support increases throughout the school years (range is 19% to 34%) with the highest self-reported percentage in Grade 12 (34%). Low mother support follows a similar pattern (range is 13% to 24%). The percentages are not as high when compared to low father support. Again, youth in Grade 12 report the highest percentage of low mother support (24%).

Peer risk behaviour is the only risk factor in the peer domain included in TAYES 2002. As youth get older, the percentage that report high peer risk behaviour increases significantly. In Grade 7, 2% report high peer risk compared to 37% in Grade 12. Noteworthy are the increases from Grade 8 (4%) to Grade 9 (13%) and from Grade 9 (13%) to Grade 10 (22.8%) and the continual increase to 36% in Grade 11.

Low marks in school (59% or less) are more likely as youth age, especially between Grade 10 (7%) and Grade 11 (14%). Ten per cent of Grade 12 students report low marks. The chance of early school leaving steadily increases throughout junior high (the range is 30% to 37%). There is a jump in percentage from Grade 9 (37%) to Grade 10 (43%). The highest self-reported percentage for early school leaving occurs in Grade 12 (49%). Perceptions of school disconnection remain low throughout junior and senior high.

One community domain risk factor was studied: neighbourhood disorganization. Most youth report low levels of neighbourhood disorganization throughout Junior and senior high school; the range is from 94% to 98%.

For those that have reported use of alcohol, cigarettes, or gambling/betting behaviour, the majority report early age of onset (grades 4 to 7). For those that report cannabis use, the majority report a later age of onset (grades 8 to 12).

DISCUSSION AND CONCLUSIONS

It is promising and encouraging that most Alberta adolescents surveyed self-report high levels of the eight protective factors and low levels of the 19 risk factors selected in TAYES 2002. The results presented in this report show that the average number of protective factors is relatively consistent across demographic variables and grade levels. More variation is seen with risk factors. This difference is not suprising for reasons outlined below.

First, more risk factors than protective factors were measured. Nineteen risk factors compared to eight protective factors were incorporated in TAYES 2002. Second, the study of protective factors in adolescent research is relatively new thus not as conclusive. This raises a measurement issue, as risk factors are more precisely measured and understood. Third, risk factors are more sensitive to change across the developmental life span and variation is likely. Fourth, with the risk and protective framework in mind, the risk factors included in TAYES 2002 are more proximal and the protective factors more distal. Proximal factors tend to bear more weight when determining influential relationships between factors and adolescent behaviour.

Though the results are not surprising, they are still important. When average numbers of risk and protective factors are examined, and grade profiles of risk and protection are developed, the findings are supportive of adolescent addictions literature and best practice principles in school-based programming. In school-based programming, best practice emphasizes cultural sensitivity and understanding the target audience: this is important because patterns of substance use and gambling behaviour vary with differences in youths' ethnicity, gender, age and living arrangements.

The notion of key transition points is well known in the literature, where engagement in risk behaviour increases at certain points in adolescent development. Some researchers have defined key transition points as grades 7, 8, and 9 and have termed prevention activities aimed at these grade levels as precision targeting in prevention (Bailey 1998a; 1998b). High percentages of youth self report grade at first use for alcohol and age first started gambling in grades 4 to 7 and first cannabis use in grades 8 to 12. These findings support the best practice principle of starting prevention activities early and continuing throughout junior and senior high. The one-time programming approach is not nearly as effective (Levin and George, 2003).

Family risk factors that tend to increase as adolescents age are family smoking behaviour, family substance abuse, strong parental approval of substance use, low father support, and low mother support. Increases in these factors highlight why it is important to target the entire family when engaging in prevention, intervention, or treatment programs with youth. An understanding of contextual influences like familial influences is vital.

Peer risk behaviour was shown to increase significantly as adolescents age as well, reflecting the growing importance of the peer domain as youth enter senior high school. Providing opportunities for peer-led programming and communicating peer norms against use of alcohol and illicit drugs reflect effective programming (Levin and George, 2003).

Generally the opportunity to interact with positive adults in the community decreases as the adolescent ages, as does participation in pro-social activities. This finding focuses attention on providing age-appropriate activities and on providing opportunities for mentorship in the community, both of which are considered principles or characteristics of best and promising programs (Levin and George, 2003).

Although the community and school domain factors are distant, and not as influential as close factors (family and peers), there is a cumulative effect where more protective factors increase resilience and more risk factors lead to increased vulnerability. A basic understanding of cumulative effects suggests the importance does not lie on whether the factor is distal or proximal. What matters is the number of protective factors versus risk factors. Understanding the buffering role of protective factors becomes essential. Future reports

will explore the relationship and potential interactions between risk and protective factors.

More research is needed in both the risk and protective realm of adolescent behaviour with even more focus on protective factors. Neither protective nor risk factors in isolation can tell the whole story. As the findings presented here are descriptive only, analyses in other TAYES, 2002 reports will examine the relationship between risk and protection and the varying degrees of vulnerability or resilience these youth present with (AADAC, 2004).

Though the literature has numerous suggestions for best and promising practice, not all communities are able to do everything suggested. Some reasons for this are lack of resources or funding. However, every community can do something and this is where the focus needs to be.

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